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## TWO NEW SPECIES OF HYMENORUS (COLEOPTERA: ALLECULIDAE) FROM PANAMA

By J. M. CAMPBELL<sup>1, 2</sup>

On a recent collecting trip to Panama<sup>3</sup>, I obtained specimens of two new species of *Hymenorus* Mulsant by beating small dwarfed oak trees that were heavily covered with several species of lichens. Upon further investigation it was found that the beetles were concealed under the lichens, upon which they were apparently feeding. It is of interest to note that three additional species of Alleculidae (two species of *Lobopoda* Solier and *Pseudocistela decepta* Champion) were also collected in this habitat with the species of *Hymenorus*.

Champion (1888-1893) described 39 species of the genus *Hymenorus* in the *Biologia Centrali-Americana*. Of these, only *Hymenorus americanus* Champion was recorded from south of Guatemala. However, Pic (1924, 1930, and 1931) described three species of *Hymenorus* from Brazil. It seems probable that the genus ranges throughout Central America, the scarcity of records being accounted for by the small size, dull coloration, and secretive habits of the beetles.

Champion's work does not include a key to the Central American species of *Hymenorus*, and it would be extremely difficult, if not impossible, to construct a really functional key without examining all of his material. The following key, based in large part on Champion's specific descriptions, in the *Biologia Centrali-Americana*, is designed to separate the two new species described herein from all other Central American species, which are, for the sake of brevity, referred to by the numbers assigned them by Champion. The groups of species delineated in the key are not to be interpreted as necessarily natural in the taxonomic sense.

- |    |   |                      |
|----|---|----------------------|
| 1. | Eyes of both male and female separated by a distance equal to or greater than the width of an eye -----   | 3                    |
|    | Eyes of male or female separated by a distance less than the width of an eye ----                         | 2                    |
| 2. | Apex of male genitalia trilobed; sides of pronotum broadly rounded from near base to center of apex ----- | HYMENORUS PANAMENSIS |

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	Apex of male genitalia not trilobed; apex of pronotum somewhat transverse -----	
	-----	Species 1-2, 5-6, 9, 11, 13-23, 26
3.	Punctures of elytral interstices placed in distinct rows -----	Species 3, 7
	Punctures dense, irregularly distributed -----	4
4.	Sides of pronotum distinctly converging from near base to apex -----	
	-----	Species 4, 12, 24-25, 27-28, 33-36
	Sides of pronotum parallel or very weakly converging in basal half -----	5
5.	Length less than 6 mm.-----	Species 30-31, 37-39
	Length greater than 6½ mm.-----	6
6.	Elongate in shape; surface opaque or slightly shining -----	Species 8, 10
	Oval; surface strongly shining -----	HYMENORUS CHIRIQUENSIS

*Hymenorus panamensis* Campbell, new species  
(FIGS. 1-4)

Narrow, elongate-oval; not at all shining above; dark brown; legs, maxillary palpi, labial palpi, and antennae light brown; first and second antennal segments much lighter in color than remaining segments; each segment becoming somewhat lighter in color approaching its apex; femora becoming somewhat lighter in color approaching its apex.

Head densely punctate; punctures separated by a distance equal to the width of a puncture; each puncture bearing one short, light brown seta. In both male and female eyes separated by a distance equal to half the width of the eye (Fig. 4). Antennae four-tenths length of body and twice length of pronotum; antennal segment three twice as long as segment two and slightly longer than each of the following segments; segments four to eleven three-fifths as wide as long; each segment except apical one distinctly obconical. Mandibles notched apically; notch half as deep as width of apex. Maxillary palpi with segment two expanded externally, expanded area bearing a pair of long spines; apex of terminal segment equal in length to inner margin of segment. Labial palpi with a single long spine on first and second segments.

Base of pronotum continuous in outline with base of elytra; sides of pronotum slightly constricted at base, broadly rounded from base to center of apex, which is not at all truncate; basal angles slightly acute; base sinuate (Fig. 2). Punctures of moderate size, dense, separated by a distance equal to diameter of a puncture. Pronotum one and one-half times as wide as long. Disk evenly convex, with no evidence of basal foveae or a median impressed line.

Elytra about twice as long as wide and four times as long as pronotum. Sides parallel for basal half, then broadly rounded to apex. Eight rows of striae across middle of each elytron; striae very lightly impressed; striae punctures small, separated by a distance two to three times as great as diameter of a puncture; punctures each bearing one light brown seta in center. Interstices flat, bearing two or three irregular rows of setae. Surface very feebly shining.

Prosternum densely punctate; propleura deeply punctate on inner margin but becoming smoother approaching base and outer edge, which are impunctate. Metasternum with somewhat less dense punctation on anterior three-fourths, impunctate on posterior fourth. Abdominal sterna with punctation less dense than on metasternum; all sterna equally punctured. Venter moderately shining.

Tarsal segment three narrowly lobed and segment four broadly lobed beneath on anterior and intermediate tarsi; only segment four narrowly lobed beneath on posterior tarsi. Tarsal claws with eight or nine teeth in both male and female.

Length: 5.5-6.0 mm.

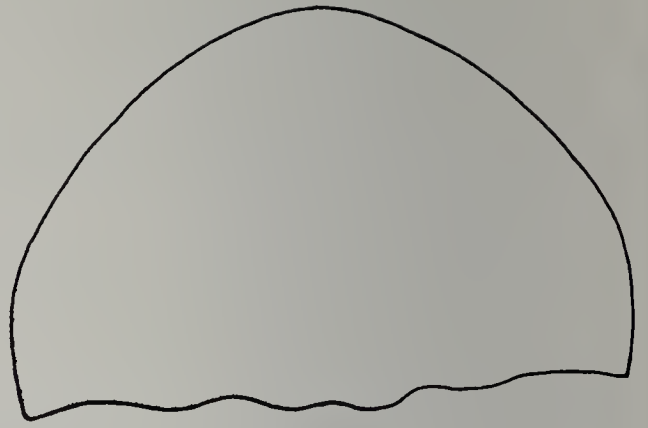
*Male:* Front femora and tibiae not enlarged internally. Lobes of eighth sternum curved inward and very broadly rounded, each lobe bearing four long setae at apex; apical portion of lobes with small punctures. Lobes of ninth sternum well developed (Fig. 3). Genitalia with lateral lobes separate at apex, fused at their base on the dorsal surface (Fig. 1B); aedeagus long and narrowly rounded at apex, equal in length to lateral lobes, apex with minute spines; basal piece narrowest at base, sides slightly curved (Fig. 1A).



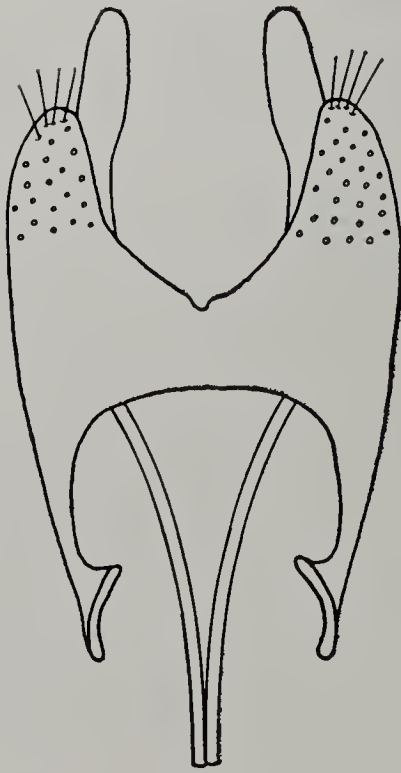
1A



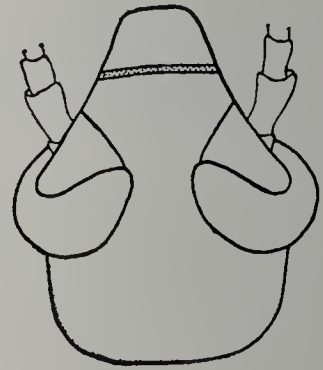
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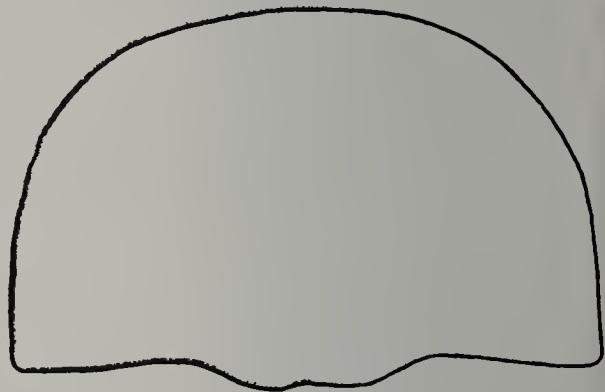
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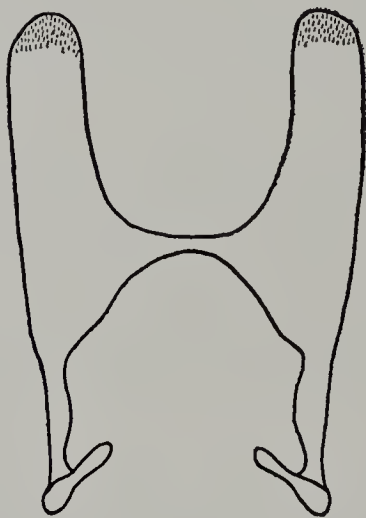
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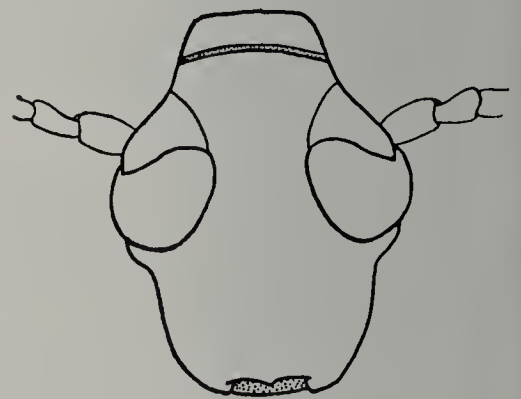
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6



7



8



*Specimens examined:* Holotype, male, from 1 mile north of El Volcán, Chiriquí Province, Republic of Panama; July 24, 1961; J. M. Campbell. Deposited in the collection of the Chicago Natural History Museum.

In addition to the holotype, the following specimens were examined, all collected by me at the type locality: 10 males and 10 females collected July 22, 1961, and 13 males and 25 females collected July 24, 1961.

*Discussion:* It is quite possible that when the genus *Hymenorus* is revised, it will be necessary to place this species in a separate genus. It is very distinct from other species of the genus *Hymenorus* in the form of the male genitalia. In it, the aedeagus is large and conspicuous, whereas in other species of the genus (and family), this structure is represented by a small membranous structure concealed in a dorsal, triangular groove in the fused lateral lobes. The genitalia of *H. panamensis* are further distinctive in that the lateral lobes are separated from each other nearly to the basal piece. In other alleculids that I have seen, the lateral lobes are solidly fused together throughout their length. Since paired lateral lobes are undoubtedly primitive for beetles, the condition in *H. panamensis* could be regarded as archaic, but I am more inclined to regard it as a secondary specialization within the family Alleculidae.

The pronotum in *H. panamensis* is wider than in the other members of the genus. In the well developed lobes of the ninth sternum the species resembles the genus *Lobopoda*. In Champion's (1888-1893) key to the genera of Alleculidae of Central America some difficulty may be encountered in keying the species to *Hymenorus*. Thus, it could be keyed to either *Telesicles* Champion or *Menes* Champion; however, the pronotum is not constricted behind as much as in *Telesicles* nor is the pronotum twice as broad as long as in *Menes*.

### *Hymenorus chiriquensis* Campbell, new species (FIGS. 5-8)

Broadly oval; strongly shining above and beneath; dark brown; mouthparts, apex of anterior and intermediate femora, tarsi, and first two antennal segments light yellow-brown.

Head densely, deeply punctate; punctures separated by a distance equal to width of a puncture. Eyes small, separated in male by a distance equal to the width of the eye, in female separated by a slightly greater distance (Fig. 8). Antennae .35 to .40 length of body and three times length of pronotum; antennal segment three two and one-half times as long as segment two and visibly longer than each of remaining segments; segments four to eleven half as wide as long, each segment slightly obconical. Mouthparts similar to those of *H. panamensis*.

Base of pronotum narrower than base of elytra; sides of pronotum parallel for basal half, then broadly rounded to apex. Basal angles rectangular; base feebly sinuate. Pronotum almost twice as wide as long (Fig. 5). Punctures large, deeply impressed, very dense, separated by a distance much less than diameter of a puncture. Disk convex; basal foveae small and shallowly depressed.

FIGS. 1-4, *Hymenorus panamensis* new species, male. FIG. 1A—Dorsal view of genitalia. FIG. 1B—Ventral view of apex of genitalia. FIG. 2—Pronotum. FIG. 3—Dorsal view of eighth and ninth abdominal sterna. FIG. 4—Dorsal view of head.

FIGS. 5-8, *Hymenorus chiriquensis* new species, male. FIG. 5—Pronotum. FIG. 6—Dorsal view of genitalia. FIG. 7—Dorsal view of eighth sternum. FIG. 8—Dorsal view of head.

Elytra almost twice as long as wide and five times length of pronotum. Sides parallel for basal third, then broadly rounded to apex. Nine rows of striae at middle of each elytron; striae deeply impressed; striae punctures very large, rectangular at base of elytra, becoming smaller and circular approaching apex; each puncture separated by a very narrow ridge at base which becomes more distant approaching apex; punctures each with a central pit bearing a short seta. Interstices flat, bearing two irregular rows of short setae.

Prosternum and propleura very densely punctate; metasternum with large punctures somewhat widely spaced; posterior margin impunctate. Abdominal sterna finely, shallowly punctate.

Tarsal segments as in *H. panamensis*. Tarsal claws each with nine teeth in both male and female.

Length: 7-8 mm.

*Male*: Front femora and tibiae not expanded internally. Lobes of eighth sternum straight, broadly rounded at apex which is often slightly deflexed (Fig. 7). Apex of lobes bearing many small, straight setae. Lobes of ninth sternum very poorly developed and not sclerotized. Genitalia long, wide, tapering from near base to apex; apex without setae or spines; aedeagus small, lying in a triangularly shaped groove on dorsal surface of fused lateral lobes (Fig. 6).

*Specimens examined*: Holotype, male, from 1 mile north of El Volcán, Chiriquí Province, Republic of Panama; July 24, 1961; J. M. Campbell. Deposited in the collection of the Chicago Natural History Museum.

In addition to the holotype, the following specimens, all collected by me, were examined: three males and four females collected July 2, 1961, and two males and nine females collected July 24, 1961, all from the type locality; and seven males and six females collected 5 miles east of Boquete, Chiriquí Province, Republic of Panama, July 29, 1961.

*Discussion*: *Hymenorus chiriquensis* is most similar to *H. tarsalis* Champion on the basis of description of the latter. It resembles *H. tarsalis* in the small, widely separated eyes and in the shape of the lateral lobes of the eighth sternum of the male. However, it is distinguished from that species in having a more oval shape, more strongly shining surface, and a very differently shaped pronotum. In *H. tarsalis* the sides of the pronotum converge from near the base, in contrast to *H. chiriquensis*, in which the sides of the pronotum are parallel in the basal half. The new species also differs from *H. tarsalis* in that the legs of the male are not enlarged and the lobes of the tarsus are not greatly expanded.

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